UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte LI SHU and JOHN J. TURKOVICH

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Appeal 2009-004145[1]
Application 10/790,584
Technology Center 2600

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Decided: December 16, 2009

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Before JOHN C. MARTIN, JOSEPH F. RUGGIERO, and
ROBERT E. NAPPI, *Administrative Patent Judges.*

MARTIN, *Administrative Patent Judge.*

DECISION ON APPEAL

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[1] The real party in interest is Imprivata, Inc.

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-26, which are all of the pending claims.

We have jurisdiction under 35 U.S.C. § 6(b). We affirm in part.

A. Appellants' invention[2]

Appellants' invention involves routing communications via a network that includes mobile nodes by selecting a relay node in response to one or more predicted locations of the destination node. Specification at 3:23-28.

The location can be predicted in response to state information associated with a prior state of the destination node. *Id.* at 5:1-2. The state information can include, for example, a prior speed, a prior direction, and/or a prior location of the destination node, and can also include a time stamp identifying the age of the state information. *Id.* at 5:2-5. The prediction can also be based, in whole or in part, on any known future (e.g., scheduled) position, trajectories, and similar information. *Id.* at 5:5-7.

B. The claims

The independent claims before us are claims 1 and 22, of which claim 1 reads:

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[2] References herein to Appellants' Specification are to the Application as filed rather than to corresponding Patent Application Publication 2005/0190717 A1.

1. A method for communicating via a network comprising nodes, the method comprising:

predicting a future physical location where a destination node will be located upon arrival of a message unit relayed to the destination node via the network; and

selecting an intermediate node for relaying the message unit between a source node and the destination node in response to the predicted future physical location of the destination node.

C. The references and rejections

The Examiner relies on the following references:

Kennedy et. al. ("Kennedy")	US 2004/0219909 A1	Nov. 4, 2004
Moon et al. ("Moon")	US 2005/0076054 A1	Apr. 7, 2005
Ahmed et al. ("Ahmed")	US 7,006,453 B1	Feb. 28, 2006

Claims 1-8, 10-16, 21-23, and 25 stand rejected under 35 U.S.C. § 102(e) for anticipation by Ahmed. Final Action 5.

Claim 9 stands rejected under 35 U.S.C. § 103(a) for obviousness over Ahmed in view of Kennedy.

Claims 17-20, 24, and 26 stand rejected under 35 U.S.C. § 103(a) for obviousness over Ahmed in view of Moon.

THE ISSUES

Appellants have the burden on appeal to show reversible error by the Examiner in maintaining the rejections. *See Gechter v. Davidson*, 116 F.3d 1454, 1460 (Fed. Cir. 1997) ("[W]e expect that the Board's anticipation

analysis be conducted on a limitation by limitation basis, with specific fact
findings for each *contested* limitation and satisfactory explanations for such
findings.") (emphasis added)); *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir.
2006) ("On appeal to the Board, an applicant can overcome a rejection by
showing insufficient evidence of *prima facie* obviousness or by rebutting the
prima facie case with evidence of secondary indicia of nonobviousness."
(citation omitted)).

The principal issue before us is whether Appellants have shown that
the Examiner erred in finding that Ahmed discloses predicting the future
physical location of a destination node.

THE ANTICIPATION REJECTION

Appellants (Reply Br. 2) agree with the Examiner's description of
Ahmed, reproduced below:

> Ahmed is discussing a location-based or position-based routing
> method and system for ad hoc networks (see the abstract, column
> 3 lines 50-56), where each node in the network maintains location
> list of other nodes in its neighborhood (see column 3 lines 58-67,
> column 4 lines 1-23). The location list includes information
> regarding location information of nodes. The location information
> is updated periodically[;] thus a node is always guaranteed of
> current information of its neighboring nodes (see column 2 lines
> 13-40, column 6 lines 20-25, col 7 lines 65-67, col 8 lines 1-50).
> A source node performs the geometry-based routing protocol to
> identify a closest node (i.e., intermediate node) to a destination
> node[;] once the closest node is defined, the source node sends
> messages through the best estimated path to the destination node
> (see column 5 lines 1-21). Also, Ahmed is discussing [that] nodes

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in the ad hoc network use GPS equipment for determining relevant positions (see col 3 lines 50-55, col 6 lines 35-62).
(Answer 10.)

In response to Appellants' argument that "Ahmed's approach relies on information relating to the <u>current</u> (not future) network topology, which may be obsolete by the time the message traverses the network" (Br. 6), the Examiner explained that "[Ahmed's] location information is updated periodically at faster or slower rates depending on the mobility of nodes of the ad hoc network." (Answer 11.) We agree with Appellants that "periodically updating <u>current</u> location information is not the same as making routing decisions based on <u>predicted</u> locations" (Reply Br. 2) and that "[w]hereas Ahmed's system bases routing decisions on <u>where a node was</u> or <u>may still be</u>, it cannot base decisions on where a node <u>will be</u>." (*Id.*)

The rejection of claim 1 for anticipation by Ahmed is therefore reversed, as is the rejection on that ground of independent claim 22, which likewise requires predicting a future location, and the rejection on that ground of dependent claims 2-8, 10-16, 21, 23, and 25.

THE OBVIOUSNESS REJECTIONS

Claim 9, which depends on claim 1 through claims 2 and 7 and stands rejected for obviousness over Ahmed in view of Kennedy, reads as follows:

> 9. The method of claim 7, further comprising causing one of the selected plurality of intermediate nodes to alter a routing list of future intermediate nodes of the selected plurality of intermediate nodes when the predicted location of the destination node was based on outdated information.

Kennedy discloses "[p]redictive routing including the use of fuzzy logic in a mobile ad hoc network." Kennedy, title. Partial and complete routes are discovered along predicted future-needed routes, and route tables are built and updated at each mobile node with a route discovery process to store the partial and complete routes in the network. *Id.* ¶ 0011.

In explaining the rejection of claim 9 in the Final Action, the Examiner stated that "Kennedy teaches the feature of alter[ing] a routing list of future intermediate nodes of the selected plurality of intermediate nodes when the *predicted* location of the destination node was based on outdated information (see the abstract, par[as.] [6], [11], [12], [28], [30], [31])." Final Action 9 (italics added). This statement clearly includes the following two findings: (1) Kennedy teaches selecting an intermediate node based on the *predicted* future location of a destination node (as required by claim 1); *and* (2) Kennedy teaches updating a list of intermediate nodes under the circumstances recited in claim 9. Appellants are therefore incorrect to argue in their Brief that "[t]he Examiner relies on Kennedy merely to show that a routing table associated with a network node can be updated if the information is deemed outdated, not to teach the routing of messages based on predicted future locations, as claimed." (Br. 6.) The Examiner's reliance on Kennedy for the above two teachings is stated even more clearly as follows in the Answer:

> Kennedy teaches a method and system for predicting routing using fuzzy logic in a mobile ad hoc network (see the abstract), where Kennedy discloses the future routes are predicted based on the historic and current data (see [28]-[30])[;] thus Kennedy

discloses the routing of messages based on future location prediction. Kennedy also discloses route failure and performing alternative routes prediction to replace routed predicted to fail (see [33]-[34])[;] thus Kennedy discloses "altering a routing list of future intermediate nodes of the selected plurality of intermediate nodes when the predicted location of the destination node was based on outdated information".

(Answer 8.) The Reply Brief does not address, let alone demonstrate error in, the Examiner's finding that Kennedy discloses the routing of messages based on predicted future locations of a destination node. Nor have Appellants challenged, let alone shown error in, the Examiner's finding that Kennedy teaches the altering step recited in claim 9.

The rejection of claim 9 for obviousness over Ahmed in view of Kennedy is therefore affirmed.

However, the rejection of dependent claims 17-20, 24, and 26 for obviousness over Ahmed in view of Moon is reversed because the Examiner did not find that Moon teaches predicting the future location of a destination node, which teaching is lacking in Ahmed.

DECISION

The rejection of claims 1-8, 10-16, 21-23, and 25 stand rejected under 35 U.S.C. § 102(e) for anticipation by Ahmed is reversed.

The rejection of claim 9 under 35 U.S.C. § 103(a) for obviousness over Ahmed in view of Kennedy is affirmed.

The rejection of claims 17-20, 24, and 26 under § 103(a) for obviousness over Ahmed in view of Moon is reversed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2009).

AFFIRMED IN PART

gvw

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